

**OPTICAL FIBER CABLE APPARATUS  
HAVING ENCASED RIBBON STACK**

**Abstract of the Disclosure**

5           Embodiments of the invention include an optical fiber cable having improved  
optical fiber densities and no central strength member. The optical fiber cable  
includes one or more multi-fiber unit tubes having an optical fiber ribbon stack snugly  
positioned therein. The diagonal length of the ribbon stack is approximately equal or,  
alternatively, at least 90% of the inner diameter of the unit tube. The multi-fiber unit  
10 tube is made of low-density polyethylene (LDPE) or other material soft and flexible  
enough to allow the ribbon stack to be relatively firmly positioned therein without  
affecting the optical fiber performance. The optical fiber cable includes one or more  
filling materials such as yarn fillers positioned, e.g., between the ribbon stack and the  
inner walls of the unit tube, to maintain the shape of the multi-fiber unit tube. The  
15 yarn filler material includes super absorbent polymers to reduce propagation of water  
down the unit tube.